REMARKS

Claims 1-24 and 32-37 have been rejected by the Examiner. Claims 1-24 and 35-40 are pending in the application. Applicants have added new claims 38-40.

Objections to the claims

Claims 9 and 10 are objected to due to informalities in the claim language, as listed on page 2 of the Office Action. In response, claims 9 and 10 have been amended to include the phrase "at an address." The amendment clarifies that the user data replacement area is located "prior" and "subsequent" to a user data area, respectively, as established by an address thereof. The phrase "at an address" has been introduced only in response to the Examiner's objection and not to narrow the claim in light of any applied art. No new matter has been entered.

The 35 U.S.C. § 112, second paragraph rejections:

Claims 1-24 and 32-37 are rejected under 35 U.S.C. 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention.

Specifically, the Office Action asserts that the use of the terms "optimize" or "optimization" are indefinite, as used in claims 1, 8, 15, 20, 32, and 35. While Applicants respectfully disagree, Applicants have amended claims 1, 8, 15, 20, and 35 in order to remove the objected to language. Applicants have amended claims 1, 8, 15, 20, 32, and 35 in response to the 35 U.S.C. § 112, second paragraph, rejection in order to more clearly define the scope of the claimed invention and not to narrow the claim in light of any applied art.

The Office Action also asserts that the expression "irrespective of physical attributes of the media" as recited in claims 1 and 15 are indefinite. While Applicants respectfully disagree, Applicants have amended claims 1 and 15 to remove this phrase. Applicants have amended claims 1 and 15 in response to the 35 U.S.C. § 112, second paragraph, rejection in

order to more clearly define the scope of the claimed invention and not to narrow the claim in light of any applied art.

New claim 38, which depends from base claim 15, recites "...irrespective of a geometric arrangement of data storage elements due to a physical structure of the media." New claim 39, dependant from claim 35, recites "...defines appropriate defect management for a particular use of the media." New claim 40, dependent from claim 1, recites "...independent of data segment boundaries on the media arising from geometric characteristics of the media." Support for these amendments may be found, inter alia, on page 16, lines 15-18 and page 17, lines 20-27 of Applicants' disclosure. No new matter has been entered.

The Examiner indicates that claims 32-34 each depend on canceled claim 25. Applicants have canceled claims 32-34 without prejudice.

Applicants respectfully request the withdrawal of this §112, second paragraph rejection.

The 35 U.S.C. 102 Rejections:

Claims 1-6, 9-10, 12-19, 21-22, 24, and 35-37 are rejected under 35 U.S.C. § 102(e) as being anticipated by Atsatt et al., U.S. Patent 5, 983, 309 (hereinafter Atsatt). The Examiner incorrectly cites an older version of 35 U.S.C 102(e). Applicants assume the Examiner intended to cite the latest version of 35 U.S.C 102(e).

It is well-settled that to anticipate a claim, the reference must teach every element of the claim, see M.P.E.P. § 2131. Moreover, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he elements must be arranged as required by the claim," see M.P.E.P. § 2131, citing In re Bond, 15 US.P.Q.2d 1566 (Fed. Cir. 1990). Furthermore, in order for a prior art reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim," see M.P.E.P. § 2131, citing Richardson v. Suzuki Motor Co., 9

U.S.P.Q.2d 1913 (Fed. Cir. 1989). Applicants respectfully observe that the rejection does not satisfy these requirements.

Claim 1 recites, among other features, "… providing a replacement area parameter defining a user data replacement area on the media …"

Claim 15 recites, among other features, "… means for providing a replacement area parameter to define a user data replacement area on the media …"

Claim 35 recites, among other features, "… providing a spare length parameter to establish a number of blocks of a user data sparing area on the media …"

The Office Action states that the #Slip_R variable described by Atsatt teaches these claim limitations. Applicants respectfully traverse. Atsatt, at column 9, lines 13-15 states: "The number of slipped sectors per sparing regions is located in #Slip_R". From this statement, it is evident that Atsatt's #Slip_R is not a replacement area parameter defining a user data replacement area on the media, nor is it a spare length parameter to establish a number of blocks of a user data sparing area on the media, as required by the claims. Instead, #Slip_R defines the amount of slipped sectors within a sparing region, which is not useable as a replacement area or sparing area. Therefore, Applicants respectfully assert that for at least the above reason claims 1, 15, and 35 are patentable over the 35 U.S.C. § 102 rejection of record.

Claims 2-6, 9-10, 12-14, 16-19, 21-22, 24, and 36-37 depend from base claims 1, 15, and 35, respectively, and thus inherit all limitations of their respective base claims. Moreover, each of these claims set forth features and limitations not recited by Atsatt. Thus, Applicants respectfully assert that for at least the above reasons claims 2-6, 9-10, 12-14, 16-19, 21-22, 24, and 36-37 are patentable, and the 35 U.S.C. § 102 rejection should be withdrawn.

SUMMARY

Applicants have amended claim 1 to positively recite "selecting the user area parameter and replacement area parameter to determine a particular distributed sparing configuration", substantially as originally presented in a wherein clause thereof. Claim 35 has been amended to positively recite "selecting the spare interval parameter and spare length parameter to determine a particular distributed sparing configuration irrespective of physical zones of the media", substantially as originally presented in a wherein clause thereof. Dependant claims 8 and 20 have been amended to track the changes to the base claims from which they depend. No new matter has been entered. Note that these amendments made for clarity and not in response to any cited or applied art.

New claims 38-40 directly depend from base claims 15, 35, and 1 respectively, and thus inherit all limitations of independent claims 1, 15, and 35. No new matter has been entered. New claims 38-40 set forth features and limitations not recited by the art of record. Thus, the new claims 38-40 should be indicated as being allowable over the art of record.

The Examiner is thanked for the indication that claims 7-8, 11, 20 and 23 contain allowable content.
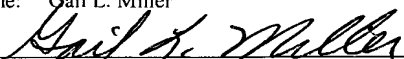
Applicants submit that this application is in full condition for allowance. Applicants respectfully request that the Examiner call the below-listed attorney if the Examiner believes that such a discussion would be helpful in resolving any further concerns.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231.

Date of Deposit: November 14, 2001

Typed Name: Gail L. Miller

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Respectfully submitted,

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PATENT APPLICATION

Attorney Docket No. 10980039-2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):   **J. Robert Sims III et al.**

Serial No.:   **09/753,372**   Examiner: **G. Portka**

Filing Date: **January 2, 2001**   Group Art Unit: **2193**

Title: **SYSTEMS AND METHODS TO PERFORM DEFECT MANAGEMENT TO BLOCK ADDRESSABLE STORAGE MEDIA**

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

1.   (Amended) A method for providing media defect management, said method comprising the steps of:

   providing a user area parameter defining a user data area on the media; [and]

   providing a replacement area parameter defining a user data replacement area on the media, wherein the user data replacement area on the media defined by the replacement area parameter may be null[, and wherein the user area parameter and replacement area parameter are selectable to allow for optimization of defect management for a particular use of the media irrespective of physical attributes of the media.] ; and

   selecting the user area parameter and replacement area parameter to determine a particular distributed sparing configuration and thereby defining appropriate defect management.

8. (Amended) The method of claim 1, wherein selecting the user area parameter and the replacement area parameter [are selectable for optimization of defect management is operative to select] selects from the group of relationships consisting of:

a sum of the user area parameter and the replacement area parameter is approximately a size of the media;

a sum of twice the user area parameter and the replacement area parameter is approximately a size of the media;

a sum of the user area parameter and the replacement area parameter is approximately ½ a size of the media;

a sum of the user area parameter and the replacement area parameter is selected to be small with respect to a size of the media; and

a sum of the user area parameter and the replacement area parameter is approximately the size of an underlying physical zone.

9. (Amended) The method of claim 1, wherein the user data replacement area associated with the replacement area parameter is disposed on the media at an address prior to a corresponding user data area associated with the user area parameter.

10. (Amended) The method of claim 1, wherein the user data replacement area associated with the replacement area parameter is disposed on the media at an address subsequent to a corresponding user data area associated with the user area parameter.

15. (Amended) A system for providing media defect management, said system comprising:

means for providing a user area parameter to define a user data area on the media; and

means for providing a replacement area parameter to define a user data replacement data area on the media, wherein the user data replacement area on the media defined by the replacement area parameter may be null, and

wherein the user area parameter and replacement area parameter are selectable to [allow for optimization of] determine appropriate defect management for a particular use of the [media irrespective of physical attributes of the] media.

20. (Amended) The system of claim 15, wherein the user area parameter and the replacement area parameter are selectable [for optimization of defect management] from the group of relationships consisting of:

a sum of the user area parameter and the replacement area parameter is approximately a size of the media;

a sum of twice the user area parameter and the replacement area parameter is approximately a size of the media;

a sum of the user area parameter and the replacement area parameter is approximately ½ a size of the media;

a sum of the user area parameter and the replacement area parameter is selected to be small with respect to a size of the media; and

a sum of the user area parameter and the replacement area parameter is approximately the size of an underlying physical zone.

35. (Amended) A method for providing media defect management for a block addressable bulk storage media, said method comprising the steps of:

providing a spare interval parameter to establish a number of blocks of a user data area on the media; [and]

providing a spare length parameter to establish a number of blocks of a user data sparing area on the media, wherein the number of blocks of a user data sparing area established by the spare length parameter may be zero [, and wherein the spare interval parameter and spare length parameter are selectable to allow for optimization of defect management for a particular use of the media irrespective of physical zones of the media];

selecting the spare interval parameter and spare length parameter to determine a particular distributed sparing configuration irrespective of physical zones of the media; and

maintaining a list including information identifying each block of the user data sparing area, wherein the list includes information with respect to a status of each block identified.

--38. (New) The system of claim 15, wherein the distributed sparing configuration is determined irrespective of a geometric arrangement of data storage elements due to a physical structure of the media.--

--39. (New) The method of claim 35, wherein the step of selecting the spare interval parameter and the spare length parameter defines appropriate defect management for a particular use of the media.--

--40. (New) The method of claim 1, wherein the step of selecting the user area parameter and replacement area parameter is performed independent of data segment boundaries on the media arising from geometric characteristics of the media.--